Barrier Beaches

The following are excerpts from several sources about what barrier beaches are, and about the potential risks of building on them. We are providing this information to ensure that you have an awareness that the beauty that is just outside your home does not come without risks.

Hampton's beaches are barrier beaches. As such (and as is the case to varying degrees with all ocean beaches), they are constantly moving and changing. Each new high tide brings about changes to the structure of the beach. Each astronomical high tide brings more energy from the ocean, and thus more extensive changes as the wave dynamics move the sand onto and off the beach. Storms bring greater change because of the intensity of the wave action on the beach. Storms at astronomical high tides have the greatest intensity, and so will have the greatest impact on a beach. As is obvious, the greater the intensity of the storm, the greater the risk of significant changes to the beach's structure. Storms at astronomical high tides, as was dramatically evidenced in Hampton recently, can move boulders and destroy seawalls. Homes built on or near those seawalls are at great risk, especially in an intense storm. Every homeowner on the ocean must realize that the beaches in front of and under their homes will change and that change does not always result in more protection from the ocean's strength. When a significant storm hits those homes, even those fronted by seawalls, they are at the mercy of the ocean.

"Barrier Beaches are dynamic strips of coastal dunes and beaches that are formed by long shore currents depositing sand across the mouth of an inlet or harbor. Barrier beaches are divided into frontal beach, dune, and inland beach, usually with a marsh or estuary system in the sheltered zone behind the barrier.

"These beaches are extremely dynamic systems that are constantly subjected to wind and wave energy. Well-vegetated areas on the barrier are somewhat stable, but sandy areas migrate significantly and large storms can rip holes right through the barrier. Inland areas are buffered by the barrier beaches, which dissipate storm wave energy by their shifting sands.

"Barrier beaches are too unstable to build on, and yet many people do just that. Any structure, whether a house or a jetty, that impedes the movement of a barrier beach will cause undesirable changes in the beaches ability to dissipate wave energy. No structure is permanent if built on a barrier beach." (*Woods Hole Research Center*)

"Hampton-Seabrook Harbor is a smaller bar-built estuary situated behind barrier beaches and

surrounded by over 5,000 acres of saltmarsh. Covering an area of approximately 475 acres at high tide, this estuary has approximately 72 miles of tidal shoreline." (*NH Estuaries Project*)

"The sandy beaches in southern Maine are one of the state's primary tourist attractions, as well as important habitats for wildlife. Beaches are dynamic features, however, that respond to a variety of forcing mechanisms. Because of growing population and increase in development along the coast in the past several decades, it is necessary to study and comprehend changes that are occurring in these systems. It is generally believed that the quality of Maine's sand beaches are declining due to encroachment by over development and the rising level of the sea. The public does not notice that these important resources are slowly eroding, however, until property and buildings are at immediate risk." (*State of Maine Beach Profiling Project*)

"At least three strategies are available to cope with the projected effects of sea-level rise in the Northeast. Strategies include:
1) retreat from advancing seas,
2) accommodate changes imposed by a higher sea level, and
3) protect areas/structures from sea-level rise.

"All three coping strategies could be more appropriately considered through information efforts that help concerned parties cope with the prospects for potential coastal changes and to avoid putting themselves in harms' way to begin with. For example, all stakeholders should be informed about the risks of building in hazard-prone areas and the potential for changes in storm frequency, intensity, and sea level.

"...As sea level continues to rise, the amount of the Northeast's coastal area subject to flooding from storms will increase, especially in low-lying areas. Increases in sea level can cause dramatic changes, because higher sea levels would provide a raised base from which storm waves could sweep inland, allowing for greater and more spread-out damage than would occur with lower sea levels. Even if storm strength were not increased, higher sea levels are very likely to cause increased damage, making the consequences seem like they were from a stronger storm." (*US Climate Change Science Program*)

"Interior Secretary James G. Watt proposed today that the Government stop issuing Federal flood insurance for new construction on 188 barrier beaches along the Atlantic and Gulf coasts. The proposal would simply transfer the insurance risk from the nation's taxpayers to the developers of these flood-prone areas, scattered from Maine to Texas, according to Mr. Watt's report to Congress." (*NY Times, 4/29/07*)